



# ERT

## FACTORY RESETTNG VIPER LINC



# TABLE OF CONTENTS

<b>FACTORY RESETTING LINC</b>	<b>2</b>
Background	2
Prepare to Reset LINC	2
Section 1 – Factory Reset LINC	3
Section 2 – Find the IP Address of the Factory Reset LINC	3
Section 3 – Apply Configuration Settings to a Factory Reset LINC	6



# FACTORY RESETTING LINC'S

## Background

The ERT Viper LINC's that we refer to in this guide are the ones manufactured by Safe Environment Engineering. The LINC is the wireless device that communicates with your instrument and the Gateway.

If a LINC fails to connect to your Gateway, the LINC will need to be reset and reconfigured to remedy the problem.

- Check the Wi-Fi (WAN) light on the top of the LINC - If the Wi-Fi light repeats the pattern of flashing every so often and going dark (light never stays solid) and a Gateway is within range, resetting the LINC and reapplying the LINC configuration will most likely remedy the problem.

Why does this happen?

- Perhaps the LINC has been set to connect to a non-standard Wi-Fi network name – i.e. something other than EPAERT1
- Perhaps an incorrect passphrase was entered on a LINC that was configured for Wi-Fi security.

## Prepare to Reset LINC

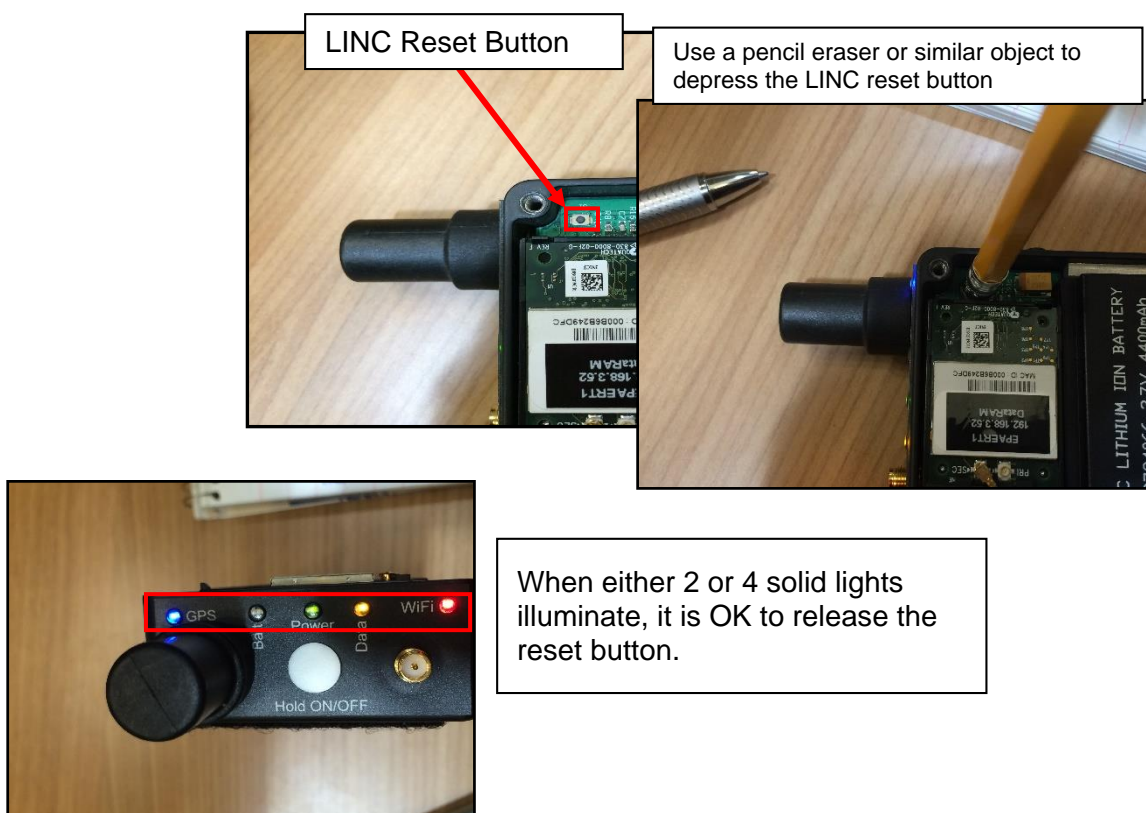
- Remove the back cover from the LINC and have a pencil with an eraser handy to help press down the reset button on the board inside the LINC.
- Have an *unsecured* (Open) Gateway ready. LINC's will only connect to a Wi-Fi network that does not have security enabled. Temporarily disable security on the Gateway if it has been enabled.
- If multiple LINC'S need to be reset, work through each one individually – *do not reset all of the LINC'S at the same time*. If multiple LINC'S are reset at the same time, it will be difficult to determine the new IP Address of each LINC.
- Follow the sections below fully and carefully for each LINC.



## Section 1 – Factory Reset LINC

This Section refers only to resetting **non** SPMFlex lincs. For resetting SPMFlex lincs, please refer to the Viper Guide for SPMFlex Setup Guide that can be found on the [www.response.epa.gov/viper](http://www.response.epa.gov/viper) website.

1. With the LINC powered off, **press and hold down the reset button** (shown below). A pencil eraser serves as a good tool to hold the reset button. While keeping the reset button depressed, **press the LINC power button**. Release the power button when the power light illuminates but continue to hold down the LINC reset button until the LINC has either 2 or 4 solid LED lights illuminated. When the lights are solid, release the reset button.



## Section 2 – Find the IP Address of the Factory Reset LINC

Once the LINC has been factory reset, it will **automatically** connect to the first **unsecure/unencrypted** wireless network it can find. We recommend that you have an **unsecured/unencrypted** Viper Gateway powered on. **Do not be in the vicinity of any other unsecure wireless networks.** Below are instructions on the easiest and recommended way to find the IP address of the LINC that was just reset.

1. Connect your laptop/computer to the unsecured **EPAERT1** Wi-Fi network.



2. Open a browser and enter 192.168.4.1 in the browser address bar to navigate to the Cradlepoint Gateway Administrator Login Page. **NOTE:** Username is admin. Contact [ertsupport@epa.gov](mailto:ertsupport@epa.gov) to obtain the password.
3. Under **Status | Client List** you will see an 'Airborne' device listed in the Wired Clients Hostname list.
4. Write down the IP address – this is the new IP Address assigned to the LINC after the reset. **NOTE:** When resetting multiple LINC, keep a list of each LINC's IP address. This will be the only way to distinguish additional LINC's as they are reset. This list will include each LINC as they are reset. You may see previous LINC resets in the list. Make sure you write down the correct one (see Example 2 below).

Example 1 -- SMARTGATEWAY  
Firmware v6.5.0

Cradlepoint NetCloud OS							
Status > Client List							
WiFi Clients							
Hostname	IP	MAC	Connection	Time Online	Kick	Block	
sgrasso-DELLXPS15	192.168.140.156	9c:b5:d0:11:01:3d	802.11n, 20 Mhz, 144 Mbps, 2.4 GHz, -48 dBm	0:17:19	Kick	Block MAC	
scg-THINKT440	192.168.126.104	5c:51:4f:78:b7:75	802.11n, 20 Mhz, 117 Mbps, 2.4 GHz, -24 dBm	0:16:11	Kick	Block MAC	
Airborne5299A	192.168.165.106	00:0b:28:05:29:9a	802.11g, 20 Mhz, 24 Mbps, 2.4 GHz, -44 dBm	0:11:29	Kick	Block MAC	

Wired Clients			
Hostname	IP	MAC	Block?
DESKTOP-853MBHQ	192.168.4.4	00:a0:4c:36:6a:37	Block MAC
DESKTOP-853MBHQ	fe80-15d8-1a5f-563-40b5	00:a0:4c:36:6a:37	Block MAC
iPhone-4	fe80-1c49-b5f-bae7-c91f	98-ca:33:5f:af:f0	Block MAC

Hotspot Clients					
Hostname	IP	MAC	Data Usage	Time Online	Revoke?
No HotSpot Clients					

cradlepoint

WIFI Clients: 0 MBR1400

Mode/LTE: None

Other Connections: ethernet-wan

QUICK LINKS

DASHBOARD

CONNECTION MANAGER

STATUS

Internet

Local Networks

Client List

Tunnels

Firewall

Routing

Ethernet

GPS

System Logs

NETWORKING

SECURITY

Status > Client List

Search

Wireless Clients

Hostname	IP	MAC	Connection	Time Online	Kick	Block
No Wireless Clients						

Wired Clients

Hostname	IP	MAC	Block?
Emillys-iPhone	fe80-10a2-4a60-32ac-ce59	0c-3e-9f-d8-0c-81	Block MAC
scg-THINKT440	fe80-0ba3-02d4-c2ba-30b5	5c-51-4f-78-fe-42	Block MAC
Airborne52984	192.168.147.105	00-0b-28-05-29-b4	Block MAC
Emillys-iPhone	192.168.138.88	0c-3e-9f-d8-0c-81	Block MAC
scg-THINKT440	192.168.86.149	5c-51-4f-78-fe-42	Block MAC

Hotspot Clients

Hostname	IP	MAC	Data Usage	Time Online	Revoke?
No HotSpot Clients					

Copyright © Cradlepoint, Inc. 2016 All rights reserved. | Licenses

Policy | Support | www.cradlepoint.com



The screenshot shows the Cradlepoint Status / Client List page. The 'Status' tab is selected. The 'Client List' section is highlighted. The table lists clients with columns: Hostname, IP, MAC, Connection, and Time Onl... The 'Airborne052A12' client is highlighted in red.

Hostname	IP	MAC	Connection	Time Onl...
android-e04a04f9c32ff3ef	fe80::9218:7cff:fe1a:b5...	90:18:7c:1a:b5:da		
	fe80::15:6dff:fe9d:1cc8	02:15:6d:9d:1c:c8		
	fe80::215:6dff:fe9d:1cc8	00:15:6d:9d:1c:c8		
scg-THINKT440	fe80::60e3:f2e4:c2a:38b	5c:51:4f:78:fe:42		
scg-THINKT440	192.168.86.149	5c:51:4f:78:fe:42		
android-e04a04f9c32ff3ef	192.168.169.121	90:18:7c:1a:b5:da		
Airborne052A12	192.168.147.85	00:0b:28:05:2a:12		

Example 1B – Firmware v5.2.4

The screenshot shows the Cradlepoint Status / Client List page. The 'Status' tab is selected. The 'Client List' section is highlighted. The table lists clients with columns: Hostname, IP, and MAC. The 'Airborne0529B4' and 'Airborne249DFC' clients are highlighted in red.

Hostname	IP	MAC
Emilys-iPhone	fe80::10e2:4a60:92ac:ce59	0c:3e:9f:d8:0c:81
scg-THINKT440	fe80::60e3:f2e4:c2a:38b	5c:51:4f:78:fe:42
Airborne0529B4	192.168.147.185	00:0b:28:05:29:b4
Emilys-iPhone	192.168.138.88	0c:3e:9f:d8:0c:81
scg-THINKT440	192.168.86.149	5c:51:4f:78:fe:42
Airborne249DFC	192.168.94.251	00:0b:6b:24:9d:fc

Example 2  
Multiple reset LINC'S Firmware v6.1.0

**NOTE: Keep a list of the IP addresses for each LINC as you go so you can identify the new LINC from a previous LINC**



## Section 3 – Apply Configuration Settings to a Factory Reset LINC

This section addresses how to apply the LINC configuration settings to a LINC that has been factory reset. **Note: Applying configuration settings to a SPMFlex LINC differ slightly. Please refer to the User Manual for SPMFlex Setup.**

1. Connect your computer to the EPAERT1 Wi-Fi network.
2. Open a Browser and navigate to the IP address from the previous section (i.e., 192.168.147.185). Login to the LINC.  
Username: dpac  
Contact [ertsupport@epa.gov](mailto:ertsupport@epa.gov) to obtain the password

Authentication Required

http://192.168.94.251 requires a username and password.  
Your connection to this site is not private.

User Name:

Password:

3. Under **Configuration** | **WLAN** Settings make sure the SSID is EPAERT1.
4. Click Commit when done.

Navigation: Status | **Configuration** | Certificates | Network | Maintenance

Left sidebar: Express Setup | **WLAN Settings** | WLAN Security Settings | Network Settings | Serial Port Settings | Serial Port 2 Settings | Connection Settings | Advanced Settings

WLAN Parameters	Current Values
Radio Startup Mode:	On
WLAN Connection Type:	Infrastructure
SSID:	EPAERT1
WLAN TX Power (dBm):	15 dBm
Maximum Wireless Data Rate:	Auto
Use Fixed Data Rate:	Disabled
WLAN Region:	United States

Buttons: **Commit** | Cancel | Defaults





5. Under **Configuration | Network Settings**, the following Values need to be changed:

- WLAN DHCP – Disabled
- WLAN Static IP Address – 192.168.3.xxx (xxx represents the LINC #. Use the number labeled on the outside of the LINC)
- Subnet Mask: 255.255.0.0
- WLAN Gateway IP Address: 192.168.4.1
- Click 'Commit'

Network Parameters	Current Values
<b>WLAN Specific Settings</b>	
WLAN DHCP:	Disabled
WLAN DHCP Client Name:	Airborne0529B4
WLAN Static IP Address:	192.168.3.172
WLAN Subnet Mask:	255.255.0.0
WLAN Gateway IP Address:	192.168.4.1
<b>Common Settings</b>	
DNS Server1 IP Address:	0.0.0.0
DNS Server2 IP Address:	0.0.0.0
WINS Server1 IP Address:	0.0.0.0
WINS Server2 IP Address:	0.0.0.0

**Commit** Cancel Defaults

6. Under **Configuration | Serial Port Settings**, the following Parameters need to be changed:

- Serial CLI Default Mode: Listen
- Serial Port Bit Rate: Set to instrument specific baud rate (see Viper User Guide)
- Click 'Commit'

Serial Port Parameters	Current Values
Serial CLI Default Mode:	Listen
Serial Port Bit Rate:	9600
Parity:	None
Data Bits:	8
Stop Bits:	1
Flow Control:	None
Input Buffer Flush Size:	1460
Serial Escape Mode:	On
Network CLI Escape Mode:	On
Escape String:	7E7E7E6473
Serial Interface Type:	RS-232

**Commit** Cancel Defaults





7. Under **Configuration | Serial Port 2 Settings**, the following Parameter needs to be changed:

- Serial CLI Default Mode: Listen
- Click 'Commit'

The screenshot shows the QUATECH Configuration page. The 'Configuration' tab is selected. In the left sidebar, 'Serial Port 2 Settings' is highlighted. The main content area shows 'Serial Port 2 Parameters' with a table of 'Current Values'. The 'Serial CLI Default Mode' is set to 'Listen'. The 'Commit' button is highlighted in red.

Serial Port 2 Parameters	Current Values
Serial CLI Default Mode:	Listen
Serial Port Bit Rate:	9600
Parity:	None
Data Bits:	8
Stop Bits:	1
Flow Control:	None
Input Buffer Flush Size:	1460
Serial Escape Mode:	On
Network CLI Escape Mode:	On
Escape String:	7E7E7E6473
Serial Interface Type:	RS-232

Buttons: Commit, Cancel, Defaults

8. Under **Configuration | Connection Settings | Serial Port 1 Connection Settings**, the following settings need to be changed:

- TCP Timeout: Set at 5
- Tunnel Enabled: Enabled

The screenshot shows the QUATECH Configuration page. The 'Configuration' tab is selected. In the left sidebar, 'Connection Settings' is highlighted. The main content area shows 'Connection Parameters' with a table of 'Current Values'. The 'Serial Port 1 Connection Settings' are highlighted. The 'TCP Timeout' is set to 5 and 'Tunnel Enabled' is set to Enabled.

Connection Parameters	Current Values
<b>Serial Port 1 Connection Settings</b>	
Outbound Transmit Type:	TCP
Primary TCP Target Server IP Address:	0.0.0.0
Secondary TCP Target Server IP Address:	0.0.0.0
TCP Port:	2571
TCP Timeout:	5
TCP Retry Time:	60
Tunnel Enabled:	Enabled
Tunnel Port:	8023
Tunnel Mode:	TCP
<b>Serial Port 2 Connection Settings</b>	
Outbound Transmit Type - Serial Port 2:	TCP
Primary TCP Target Server IP - Serial Port 2:	0.0.0.0
Secondary TCP Target Server IP - Serial Port 2:	0.0.0.0
TCP Port - Serial Port 2:	2571
TCP Timeout - Serial Port 2:	5
TCP Retry Time - Serial Port 2:	60
Tunnel Enabled - Serial Port 2:	Enabled
Tunnel Port - Serial Port 2:	8024
Tunnel Mode - Serial Port 2:	TCP

Buttons: Commit, Cancel, Defaults



**Scroll down to Serial Port 2 Connection Settings:**

- TCP Timeout – Serial Port 2: Set at 5
- Tunnel Enabled – Serial Port 2: Enabled
- Click 'Commit'

**QUATECH**  
A DPAC TECHNOLOGIES COMPANY

▼ Status ▼ Configuration ▼ Certificates ▼ Network ▼ Maintenance

Express Setup  
WLAN Settings  
WLAN Security Settings  
Network Settings  
Serial Port Settings  
Serial Port 2 Settings  
Connection Settings  
Advanced Settings  
Upload Configuration File  
List Configuration Files  
Delete Configuration File  
Active Configuration  
User Configuration  
OEM Configuration  
Factory Configuration  
WPA Configuration

QUATECH INC.  
1.330.655.9000 : phone  
1.800.553.1170 : toll free  
© 2010 QTC DATA : sales@qtc.com

Connection Parameters	Current Values
<b>Serial Port 1 Connection Settings</b>	
Outbound Transmit Type:	TCP
Primary TCP Target Server IP Address:	0.0.0.0
Secondary TCP Target Server IP Address:	0.0.0.0
TCP Port:	2571
TCP Timeout:	5
TCP Retry Time:	60
Tunnel Enabled:	Enabled
Tunnel Port:	8023
Tunnel Mode:	TCP
<b>Serial Port 2 Connection Settings</b>	
Outbound Transmit Type - Serial Port 2:	TCP
Primary TCP Target Server IP - Serial Port 2:	0.0.0.0
Secondary TCP Target Server IP - Serial Port 2:	0.0.0.0
TCP Port - Serial Port 2:	2571
TCP Timeout - Serial Port 2:	5
TCP Retry Time - Serial Port 2:	60
Tunnel Enabled - Serial Port 2:	Enabled
Tunnel Port - Serial Port 2:	8024
Tunnel Mode - Serial Port 2:	TCP
Port Settings	

9. Under **Configuration | Advanced Settings** scroll down to the **WLAN Specific Settings** and make the following change:

- Use Directed Probes: Enabled

**QUATECH**  
A DPAC TECHNOLOGIES COMPANY

▼ Status ▼ Configuration ▼ Certificates ▼ Network ▼ Maintenance

Express Setup  
WLAN Settings  
WLAN Security Settings  
Network Settings  
Serial Port Settings  
Serial Port 2 Settings  
Connection Settings  
Advanced Settings  
Upload Configuration File  
List Configuration Files  
Delete Configuration File  
Active Configuration  
User Configuration

FTP Settings	
FTP Server IP Address or Name:	
FTP User Name:	
FTP Password:	
FTP Server Path:	
FTP File Name:	
<b>WLAN Specific Settings</b>	
Antenna Mode:	Antenna 2 Only
Speedlink Roaming:	Enabled
Beacons Missed Before Roaming:	6
Association Retry Count:	3
Association Backoff Time (msec):	10000
ARP Staleout Time:	120
ARP Reachable Time:	120
Use Directed Probes:	Enabled
Lost Association Link Timeout:	1



Scroll down the **Advanced Settings** to **LED / GPIO Settings**, and make the following changes:

- I/O Port F Bit Direction: change to **0xF2**
- All **LEDs** should be set to: Disabled
- Click 'Commit'

The screenshot shows the QUATECH configuration interface. The 'Configuration' tab is selected. In the left sidebar, 'Advanced Settings' is highlighted. The 'LED / GPIO Settings' section is expanded, showing the following settings:

Setting	Value
I/O Port F Bit Direction:	0xF2
I/O Port F Internal Pullup Resistor:	0xFF
I/O Port G Bit Direction:	0xFF
I/O Port G Internal Pullup Resistor:	0xFF
Enable LED Signal Strength Meter:	Disabled
Enable POST LED:	Disabled
Enable RF_LINK LED:	Disabled
Enable WLN_CFG LED:	Disabled
Enable CONN LED:	Disabled

At the bottom of the settings, there are buttons for 'Commit', 'Cancel', and 'Defaults'. The 'Commit' button is highlighted with a red box.

10. You are now ready to Restart the newly configured LINC.

**Configuration changes committed successfully**

Reload

Restart

From this point forward, the LINC can be accessed via the IP address (192.168.3.XX) assigned in Step 5 above and is ready to use with Viper.